AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1.   (Currently amended) A method in a data processing system comprising the steps of:

receiving a request by a lookup discovery service to return locator information that facilitates access to a lookup service of interest to a client, the request including a service characteristic of interest to the client and a time period; and

locating, during the time period, by the lookup discovery service, any lookup services using the service characteristic of interest to the client; and

when a lookup service is located, transmitting the request to the located lookup service.

2.   (Original) The method of claim 1, wherein the receiving step includes the step of receiving a request to register with the lookup discovery service.

3.   (Original) The method of claim 1, wherein the transmitting step includes the step of transmitting a multicast packet comprising a request to access the lookup service.

4.   (Original) The method of claim 1, wherein the transmitting step further includes the step of transmitting a unicast packet comprising a request to access a lookup service.

5.   (Original) The method of claim 1 further comprising the steps of:

receiving lookup service locator information by the lookup discovery

service; and

transmitting the locator information to a client.

6.   (Currently amended) A method in a data processing system having a

client, a lookup discovery service and a lookup service with associated services, the

method comprising the steps of:

transmitting a request by a client to a lookup discovery service to return

locator information for a desired lookup service, the request including a

characteristic of the desired lookup service;

receiving the request by the lookup discovery ~~server~~ service;

locating, as a function of the characteristic of the desired lookup service, a

lookup service; and

transmitting the request to the located lookup service ~~at least one of a~~

~~plurality of lookup services~~.

7.   (Original) The method of claim 6 further comprising the steps of:

receiving locator information by the lookup discovery service; and

transmitting the locator information to a client.

8.   (Original) The method of claim 6, wherein the first transmitting step is

further comprised of the step of transmitting a request to register with the lookup

discovery service.

9.   (Original) The method of claim 6, wherein the second transmitting step is

further comprised of the step of transmitting a multicast packet from the lookup

discovery service to said at least one of a plurality of lookup services.

10.   (Original) The method of claim 9, further comprising of the step of receiving locator information by the lookup discovery service that facilitates access to a plurality of lookup services.

11.   (Original) The method of claim 6, wherein the first transmitting step further includes the step of transmitting a multicast packet to the lookup discovery service.

12.   (Original) The method of claim 6, wherein the first transmitting step further includes the step of transmitting a unicast packet to the lookup discovery service.

13.   (Currently amended) A method in a data processing system having a client computer, a lookup discovery service for accessing associated lookup services, and a lookup service containing service stubs for accessing associated services, the method comprising the steps of:

transmitting a request by a client to provide locator information for a lookup service, the request including a characteristic of interest to the client;

receiving the request by the lookup discovery server; and service;

locating, by the lookup discovery service, a lookup service matching the characteristic of interest until a time period previously specified by the client expires;

transmitting the request to the located lookup service of interest at least one of a plurality of lookup services;

returning the locator information of the lookup service that satisfies the client's request of interest; and

transmitting said locator information from the lookup discovery service to the client.

14.   (Original) The method of claim 13 wherein the first transmitting step includes the step of transmitting a request for a plurality of lookup services.

15.   (Original) The method of claim 13 wherein the returning step further includes the step of returning lookup service locator information for a plurality of lookup services.

16.   (Original) The method of claim 13 wherein the returning step includes the step of returning the null value if no lookup service satisfying the client's request is found.

17.   (Currently amended) A distributed system with a plurality of services, comprising:

a first server computer having a memory containing a lookup discovery service for facilitating access to at least a second server computer;

a second server computer having a memory containing a lookup service having stubs for facilitating access to a plurality of services and having a processor for running the lookup service; and

a client computer having a memory containing a program that transmits a request to the first server computer, the request including a characteristic of lookup services that interest the program and a time period, and having a processor for running the program; wherein the first server receives the request from the client, searches for lookup services that match the characteristic during the time period, and then transmits the request to at least one of a plurality of second servers that include lookup services found to match the characteristic, wherein the request provides locator information that provides access to a lookup service associated with the second server computer.

18.   (Currently amended) A system having a first computer with a client and a second computer with a lookup service containing stubs used for accessing associated services and a third computer with a lookup discovery service containing lookup service locator information for facilitating access to the lookup service, the system comprising:

means for sending a request by the client to the lookup discovery service identifying one of the associated lookup services to be accessed for access to a lookup service meeting criteria specified in the request;

means for receiving the request by the lookup discovery service;

means for searching for lookup services that meet the criteria;

means for transmitting the client request to at least one of a plurality of each lookup services service that satisfies the client's request meets the criteria;

means for returning the locator information corresponding to the lookup service; and

means for receiving the locator information by the client.

19.   (Currently amended) A computer-readable medium containing instructions for controlling a data processing system to perform a method for locating a lookup service, the method comprising the following steps:

receiving a request by a lookup discovery service to return locator information that facilitates access to a lookup service of interest to a client, the request including a characteristic that interests the client; and

repeatedly searching, by the lookup discovery service, for lookup services that match the characteristic that interests the client; and

when a lookup service that matches the characteristic is located, transmitting the request to the located lookup service.

20.   (Original) The computer-readable medium of 19, wherein the method further comprises the step of receiving a request to register with the lookup discovery service.

21.   (Original) The computer-readable medium of claim 19, wherein the transmitting step further includes the step of transmitting a multicast packet comprising a request to access the lookup service.

22.   (Original) The computer-readable medium of claim 19, wherein the transmitting step further includes the step of transmitting a unicast packet comprising a request to access the lookup service.

23.   (Original) The computer-readable medium of claim 19 further comprising the following steps of:

receiving lookup service locator information by the lookup discovery service; and

transmitting the locator information to a client.

24.   (Currently amended) A computer-readable medium containing instructions for controlling a data processing system to perform a method for accessing lookup services, the method comprising the steps of:

transmitting a request by a client to a lookup discovery service to return locator information for a desired lookup service, the request including a characteristic of the desired lookup service;

receiving the request by the lookup discovery ~~server~~ service;

searching, by the lookup discovery service, until a lookup service matching the characteristic is found; and

transmitting the request to the lookup service matching the characteristic ~~at least one of a plurality of lookup services~~.

25.   (Original) The computer-readable medium of claim 24, further comprising the following steps of:

receiving lookup service locator information by the lookup discovery service; and

transmitting the lookup service locator information to a client.

26.   (Original) The computer-readable medium of claim 24, wherein the first transmitting step is further comprised of the step of transmitting a request to register with the lookup discovery service.

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27. (Original) The computer-readable medium of claim 24, wherein the second transmitting step is further comprised of the step of transmitting a multicast packet from the lookup discovery service to said at least one of a plurality of lookup services.